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09/930,379	08/15/2001	Jussi Numminen	944-003.027-1/32439	9197

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EXAMINER
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HOM, SHICK C

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 11/06/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/930,379

Applicant(s)

NUMMINEN, JUSSI

Examiner

Shick C Hom

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 8/15/01, 1/24/02, 9/3/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### DETAILED ACTION

#### *Specification*

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### *Claim Objections*

2. Claims 2-21, 23-25, and 27-29 are objected to because of the following informalities: in claims 2-21, line 1 delete "A method" and insert ---The method---. In claims 23-25, line 1 delete "User equipment" and insert ---The user equipment---. In claim 27-29, line 1 delete "A base station" and insert ---The base station---. Appropriate correction is required.

#### *Claim Rejections - 35 USC § 112*

3. Claims 1-2<sup>1</sup>~~9~~ are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recite a method for providing discontinuous radio link when receiving packets while maintaining logical connection

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being characterized by the slots or frames as recited in claim 1 lines 7-14; however, it is not clear what steps of providing discontinuous radio link are being claimed since no active verbs are used to clearly describe the steps of providing the link.

Claims 2-2<sup>1</sup>/<sub>2</sub> are rejected under 35 U.S.C. 112, second paragraph because they depend from rejected claim 1.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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5. Claims 1-5, 10, 12, 15, 16, and 21-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Muller (6,438,375).

Regarding claim 1:

Muller discloses the method for providing a discontinuous radio link for user equipment in a telecommunication network in a physical radio transmission layer when receiving packets while maintaining the logical connection in higher protocol layers during a packet service mode (see col. 2 lines 29-53), characterized in that the user equipment enters into a discontinuous reception mode receiving either: a) two or more slots of each radio frame, or b) one or more frames; and powers down its receiver circuitry for either a) the remaining slots of the radio frame or b) one or more predefined periods, signaled by the telecommunication network (see Figs. 1-2, and col. 4 line 50 to col. 5 line 25).

Regarding claim 22:

Muller discloses the user equipment for operating in a telecommunication network for receiving packets during a packet service mode (see col. 6 line 50 to col. 7 line 8), characterized in that the user equipment includes a user equipment power control loop module that enters the user

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equipment into a discontinuous reception mode for receiving two or more slots of each radio frame with receiver circuitry and for powering down the receiver circuitry for the remaining slots of the radio frame (see Figs. 1-2, col. 2 lines 29-53, and col. 4 line 50 to col. 5 line 25).

Regarding claim 26:

Muller discloses the base station for operating in a telecommunication network for providing packets during a packet service mode to user equipment having receiver circuitry (see col. 1 lines 14-30, col. 6 line 50 to col. 7 line 8), characterized in that the base station includes a base station power control loop module that provides a signal to the user equipment to enter into a discontinuous reception mode for receiving two or more slots of each radio frame and to power down its receiver circuitry for the remaining slots of the radio frame (see Figs. 1-2, col. 2 lines 29-53, and col. 4 line 50 to col. 5 line 25).

Regarding claim 2:

Muller discloses that packet transmission starts in one out of every K radio frames (col. 2 lines 29-53).

Regarding claim 3:

Muller discloses that the two or more slots are consecutive slots in the radio frame (col. 2 lines 54-64).

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Regarding claim 4:

Muller discloses that the two or more slots are non-consecutive slots in the radio frame (col. 3 lines 14-30).

Regarding claim 5:

Muller discloses that the user equipment has an active period of two or more consecutive slots or idle frame(s) prior to its own reception for performing neighbor measurements and power control functions (col. 2 lines 19-64 and col. 3 lines 31-47).

Regarding claim 10:

Muller discloses that in the discontinuous reception mode the user equipment switches off the receiver circuitry for a part of the radio frame or one or more radio frames (col. 5 lines 14-25, col. 8 line 66 to col. 9 line 18).

Regarding claim 12:

Muller discloses that the user equipment receives higher layer signalling from a radio network controller or a base station in the telecommunications network that defines a period where the user equipment needs to perform a decoding of the radio frame or slots in order to detect if packet transmission is active (col. 2 lines 29-53, col. 3 lines 31-47, col. 4 lines 20-32).

Regarding claim 15:

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Muller discloses that in a discontinuous period the user equipment waits a fixed discontinuous period of time (col. 2 lines 29-53 and col. 3 line 64 to col. 4 line 19).

Regarding claim 16:

Muller discloses that in a discontinuous period the user equipment waits a variable discontinuous period of time (col. 3 lines 14-30).

Regarding claim 21:

Muller discloses that the user equipment concurrently enters into a discontinuous transmit mode and performs one or more closed loop power control sequences for following the fading of an uplink, a downlink or both when its transmitter is active (col. 2 lines 19-52 and col. 3 lines 14-30).

Regarding claim 23:

Muller discloses that the power control loop module checks for packet transmission in one out of every K radio frames (col. 2 lines 29-53).

Regarding claim 24:

Muller discloses that the power control loop module checks two or more consecutive slots in the radio frame (col. 2 lines 29-64).

Regarding claim 25:



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Muller discloses that the power control loop module checks two or more non-consecutive slots in the radio frame (col. 3 lines 14-30).

Regarding claim 27:

Muller discloses that the signal contains information for the user equipment to check for packet transmission in one out of every K radio frames (col. 2 lines 29-53).

Regarding claim 28:

Muller discloses that the signal contains information for the user equipment to check two or more consecutive slots in the radio frame (col. 2 lines 29-64).

Regarding claim 29:

Muller discloses that the signal contains information for the user equipment to check two or more non-consecutive slots in the radio frame (col. 3 lines 14-30).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this

Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

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art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (6,438,375) in view of Osawa (6,035,208).

For claim 6 Muller discloses the method described in paragraph 5 of this office action. Muller discloses all the subject matter of the claimed invention with the exception of the user equipment adapts the active period depending on neighborhood conditions by increasing the active period when neighborhood conditions are unstable, and decreasing the active period when neighborhood conditions are stable.

Osawa from the same or similar fields of endeavor teach that it is known to provide the user equipment adapts the active period depending on neighborhood conditions by increasing the active period when neighborhood conditions are unstable, and decreasing the active period when neighborhood conditions are stable (see col. 2 line 66 to col. 3 line 6 and col. 3 lines 25-32). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide the user equipment which adapts the active period depending on neighborhood conditions by increasing the active

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period when neighborhood conditions are unstable, and decreasing the active period when neighborhood conditions are stable as taught by Osawa in the communications method of Muller. The motivation for providing the user equipment which adapts the active period depending on neighborhood conditions by increasing the active period when neighborhood conditions are unstable, and decreasing the active period when neighborhood conditions are stable as taught by Osawa in the communication method of Muller being that it provides more efficiency for the system since system resource is utilized only during the active period.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (6,438,375) in view of Mizota (4,713,809).

For claim 11 Muller discloses the method described in paragraph 5 of this office action. Muller discloses all the subject matter of the claimed invention with the exception of the radio frame includes fifteen slots, and the part of the radio frame that the user equipment switches off the circuitry in the receiver is thirteen of fifteen slots.

Mizota from the same or similar fields of endeavor teach that it is known to provide the radio frame includes fifteen slots, and the part of the radio frame that the user equipment

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switches off the circuitry in the receiver is thirteen of fifteen slots (see Figs. 2, 6 and col. 4 lines 25-47). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide the radio frame including fifteen slots, and the part of the radio frame that the user equipment switches off the circuitry in the receiver is thirteen of fifteen slots as taught by Mizota in the communications method of Muller. The motivation for providing the radio frame which includes fifteen slots, and the part of the radio frame that the user equipment switches off the circuitry in the receiver is thirteen of fifteen slots as taught by Mizota in the communication method Muller being that it reduces power consumption in the network.

9. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (6,438,375) in view of Dent (5,757,789).

For claims 13-14 Muller discloses the method described in paragraph 5 of this office action. Muller discloses all the subject matter of the claimed invention with the exception of the user equipment determines that the radio frame contains data targeted by decoding the radio frame using a cyclic redundancy code and having a correct cyclic redundancy code result.

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Dent from the same or similar fields of endeavor teach that it is known to provide the user equipment determines that the radio frame contains data targeted by decoding the radio frame using a cyclic redundancy code and having a correct cyclic redundancy code result (see col. 14 line 26 to col. 15 line 16). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide the radio frame containing data targeted by decoding the radio frame using a cyclic redundancy code and having a correct cyclic redundancy code result as taught by Dent in the communications method of Muller. The motivation for providing the radio frame containing data targeted by decoding the radio frame using a cyclic redundancy code and having a correct cyclic redundancy code result as taught by Dent in the communication method of Muller being that it provides more reliability for the system since the system can correct error at the receiving end.

***Allowable Subject Matter***

10. Claims 7-9 and 17-20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

**Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kotzin discloses a method and apparatus for distributing processing load for decoding paging messages in a radio communication system.

Bernhardt et al. disclose selective call transceiver with system approved power saving state.

12. Any response to this nonfinal action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (2600 Receptionist at (703) 305-4750).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick Hom whose telephone number is (703) 305-4742. The examiner's regular work schedule is Monday to Friday from 8:00 am to 5:30 pm EST and out of office on alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao, can be reached at (703) 308-5463.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

  
DANGTON  
PRIMARY EXAMINER

SH SH

October 22, 2003